AMENDMENTS TO THE CLAIMS:

This following listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) A spectroscopic apparatus for measuring a concentration of one or more than one analyte in a sample, comprising:

a) a source of electromagnetic radiation (EMR);

b) a sample slot defining ~~an area~~ a volume having a length, width and height, the width being longer than the height, and the width being perpendicular to a light path ~~being rectangularly-shaped in transverse cross section~~;

c) a first aperture located between the source of EMR and the sample slot to produce [[a]] the light path therebetween, the sample slot to receive a sample tab to be placed within the light path, the sample tab being rectangularly-shaped in transverse cross section;

d) a second aperture located in the light path, between the sample slot and one or more than one photodetector, the one or more than one photodetector in operative association with the spectroscopic apparatus; and

e) one or more than one upgraded primary calibration algorithm for the one or more than one analyte, the one or more than one upgraded primary calibration algorithm in operative association with the spectroscopic apparatus and developed on the spectroscopic apparatus by combining some, or all of a calibration data set derived from a primary calibration set and obtained from one, or more than one other apparatus with additional data obtained from the spectroscopic apparatus.

2. (Cancelled)

3. (Previously Presented) The apparatus according to claim 31, wherein the sample tab contains the sample placed between a cover plate and a base plate, wherein at least a portion of the cover plate is transparent or translucent and at least a portion of the base plate is transparent or translucent, and wherein the cover plate is hingedly attached to the base plate.

4. (Original) The apparatus according to claim 1, wherein the source of EMR is selected from the group consisting of a tungsten lamp, one or more than one Light Emitting Diode (LED), and one or more than one laser.

5. (Original) The apparatus according to claim 1, wherein the one or more than one photodetector is selected from the group consisting of Photodiode or Charged Coupled Detector (CCD).

6. (Original) The apparatus according to claim 1, wherein the one or more than one photodetector is comprised of an array of detectors, housed inside a spectrometer within the spectroscopic apparatus, the spectrometer further comprising a diffraction grating.

7. (Original) The apparatus according to claim 1, wherein the one or more than one calibration algorithm was developed using an order derivative of absorbance of calibration samples, at one or more than one wavelength of a standard set of wavelengths, and a statistical technique selected from the group consisting of simple linear regression, multiple linear regression, and multivariate analysis.

8. (Original) The apparatus according to claim 7, wherein the multivariate analysis is selected from the group consisting of partial least squares, principal component analysis, neural network, and genetic algorithm.

9. (Previously Presented) The apparatus according to claim 31, wherein the sample tab contains the sample, and wherein the sample is selected from the group consisting of whole blood, serum, plasma, urine, synovial fluid, lymphatic fluid, sputum, feces, cerebrospinal fluid and a non-biological sample.

10. (Original) The apparatus according to claim 1, wherein the one or more than one primary calibration algorithm is for an analyte selected from the group consisting of a Hb-based blood substitute, Total-Hb, Oxy-Hb, "Total-Hb minus Met-Hb," Met-Hb, bilirubin, biliverdin, methylene blue, and a combination thereof.

11. (Currently Amended) A spectroscopic apparatus for measuring a concentration of one or more than one analyte in a sample, comprising:

a) a source of electromagnetic radiation (EMR) for producing a light path;

b) a sample slot to receive a sample tab and placed within the light path, the sample tab being rectangularly-shaped in transverse cross section, the sample slot comprising a first, and a second, side, the first side facing the source of EMR and the sample slot defining ~~an area~~ a volume having a length, width and height, the width being longer than the height, and the width being perpendicular to the light path ~~being rectangularly-shaped in transverse cross section~~;

c) an aperture located in the light path between the source of EMR and the sample slot;

d) a reflective member positioned at or near the second side, the reflective member for reflecting the EMR that passes through the sample slot to produce a reflected light path;

e) one or more than one photodetector located within the reflected light path, the one or more than one photodetector in operative association with the spectroscopic apparatus;

f) one or more than one upgraded primary calibration algorithm for the one or more than one analyte, the one or more than one upgraded primary calibration algorithm in operative association with the spectroscopic apparatus and developed on the spectroscopic apparatus by combining some, or all of a calibration data set derived from a primary calibration set and obtained from one, or more than one other apparatus with additional data obtained from the spectroscopic apparatus.

12. (Cancelled)

13. (Previously Presented) The apparatus according to claim 32, wherein the sample tab contains the sample placed between a cover plate and a base plate, wherein at least a portion of the cover plate is reflective, transparent or translucent and at least a portion of the base plate is reflective, transparent or translucent, and wherein the cover plate is hingedly attached to the base plate.

14. (Original) The apparatus according to claim 11, wherein the source of EMR is selected from the group consisting of a tungsten lamp, one or more than one Light Emitting Diode (LED), and one or more than one laser.

15. (Original) The apparatus according to claim 11, wherein the one or more than one photodetector is selected from the group consisting of Photodiode or Charged Coupled Detector (CCD).

16. (Original) The apparatus according to claim 11, wherein the one or more than one photodetector is comprised of an array of detectors, housed inside a spectrometer within the spectroscopic apparatus, the spectrometer further comprising a diffraction grating.

17. (Original) The apparatus according to claim 11, wherein the one or more than one calibration algorithm was developed using an order derivative of absorbance of calibration samples, at one or more than one wavelength of a standard set of wavelengths, and a statistical technique selected from the group consisting of simple

linear regression, multiple linear regression, and multivariate analysis.

18. (Original) The apparatus according to claim 17, wherein the multivariate analysis is selected from the group consisting of partial least squares, principal component analysis, neural network, and genetic algorithm.

19. (Previously Presented) The apparatus according to claim 32, wherein the sample tab contains the sample, and wherein the sample is selected from the group consisting of whole blood, serum, plasma, urine, synovial fluid, lymphatic fluid, sputum, feces, cerebrospinal fluid and a non-biological sample.

20. (Original) The apparatus according to claim 11, wherein the one or more than one primary calibration algorithm is for an analyte selected from the group consisting of a Hb-based blood substitute, Total-Hb, Oxy-Hb, "Total-Hb minus Met-Hb," Met-Hb, bilirubin, biliverdin, methylene blue, and a combination thereof.

21. (Currently Amended) A spectroscopic apparatus for measuring a concentration of one or more than one analyte in a sample, comprising:

a) a source of electromagnetic radiation (EMR) for producing a light path;

b) a sample slot defining ~~an area~~ a volume having a length, width and height, the width being longer than the height, and the width being perpendicular to the light path ~~being rectangularly-shaped in transverse cross-section~~;

c) an aperture located within the light path between the source of EMR and the

sample slot, the sample slot to receive a sample tab, and placed within the light path, the sample tab being rectangularly-shaped in transverse cross section;

d) one or more than one photodetectors located on a same side of the sample slot as the source of EMR, the one or more than one photodetector in operative association with the spectroscopic apparatus;

e) one or more than one upgraded primary calibration algorithm for the one or more than one analyte, the one or more than one upgraded primary calibration algorithm in operative association with the spectroscopic apparatus and developed on the spectroscopic apparatus by combining some, or all of a calibration data set derived from a primary calibration set and obtained from one, or more than one other apparatus with additional data obtained from the spectroscopic apparatus.

22. (Cancelled)

23. (Previously Presented) The apparatus according to claim 33, wherein the sample tab contains the sample placed between a cover plate and a base plate, wherein at least a portion of the cover plate is reflective, transparent or translucent and at least a portion of the base plate is reflective, transparent or translucent, and wherein the cover plate is hingedly attached to the base plate.

24. (Original) The apparatus according to claim 21, wherein the source of EMR is selected from the group consisting of a tungsten lamp, one or more than one Light Emitting Diode (LED), and one or more than one laser.

25. (Original) The apparatus according to claim 21, wherein the one or more than one photodetector is selected from the group consisting of Photodiode or Charged Coupled Detector (CCD).

26. (Original) The apparatus according to claim 21, wherein the one or more than one photodetector is comprised of an array of detectors, housed inside a spectrometer within the spectroscopic apparatus, the spectrometer further comprising a diffraction grating.

27. (Original) The apparatus according to claim 21, wherein the one or more than one calibration algorithm was developed using an order derivative of absorbance of calibration samples, at one or more than one wavelength of a standard set of wavelengths, and a statistical technique selected from the group consisting of simple linear regression, multiple linear regression, and multivariate analysis.

28. (Original) The apparatus according to claim 27, wherein the multivariate analysis is selected from the group consisting of partial least squares, principal component analysis, neural network, and genetic algorithm.

29. (Previously Presented) The apparatus according to claim 33, wherein the sample tab contains the sample, and wherein the sample is selected from the group consisting of whole blood, serum, plasma, urine, synovial fluid, lymphatic fluid, sputum,

feces, cerebrospinal fluid and a non-biological sample.

30. (Original) The apparatus according to claim 21, wherein the one or more than one primary calibration algorithm is for an analyte selected from the group consisting of a Hb-based blood substitute, Total-Hb, Oxy-Hb, "Total-Hb minus Met-Hb," Met-Hb, bilirubin, biliverdin, methylene blue, and a combination thereof.

31. (Previously Presented) The apparatus of claim 1, further comprising the sample tab.

32. (Previously Presented) The apparatus of claim 11, further comprising the sample tab.

33. (Previously Presented) The apparatus of claim 21, further comprising the sample tab.